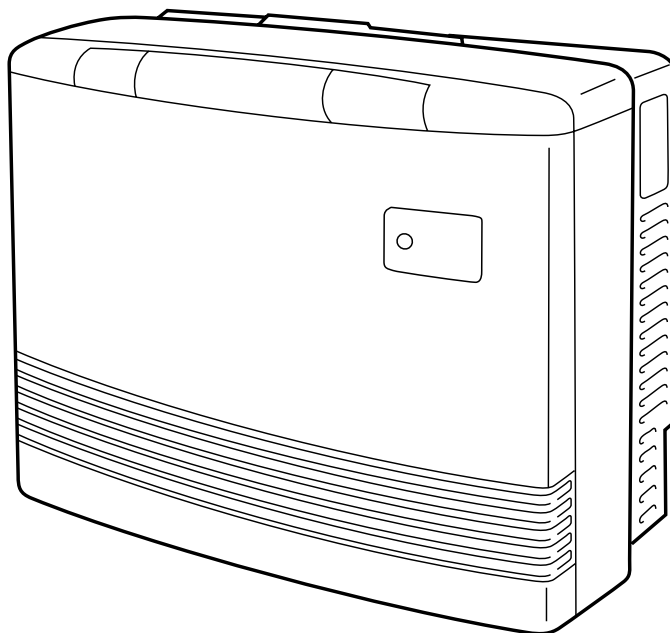


# Rinnai

## Installation and User Manual

### RHFE-556T



## Energysaver<sup>®</sup> Space Heater

Operation and Use - Page 2

Installation - Page 12

### Important.

Read these instructions carefully before attempting installation or use of this appliance. All work must be carried out by competent persons.

## CONTENTS

Warranty .....	1
Layout of appliance .....	2
Features .....	4
Safety Points .....	5
Operation .....	7
Adjusting Temperature .....	8
Humidifier .....	9
Wiring Diagram .....	23
Gas Conversion .....	24
Extension Kits .....	28
Service Contact Point ....	33

### Rinnai Corporation - Japan



ISO 9001  
APPROVED BY JIA

Manufactured under a  
Quality System Certified  
as complying with ISO  
9001 by an Accredited  
Certification Body.



# RINNAI WARRANTY OF QUALITY

As the purchaser of this high quality model RHFE-556T product you are provided with the following warranty:

	Free Parts
Heat Exchanger	15 Years
Fan	1 Year
All other parts	1 Year

\* Full Heat Exchanger replacement (parts only) for all 15 years.

This warranty does not cover cleaning and normal wear and tear, calls of this nature may be chargeable. Please check the fault finding charts on page 32, before asking for a service call. You may be able to overcome the problem without the service call, or the heater may be operating normally. Service calls to a heater which is operating normally may be chargeable, even when the heater is under warranty.

The installer is responsible for your heater's correct installation. There is no requirement to post the following information back to **Rinnai UK Ltd.**

However we advise that you keep it in a safe place.

Date of installation:

Installer's name:

Address:

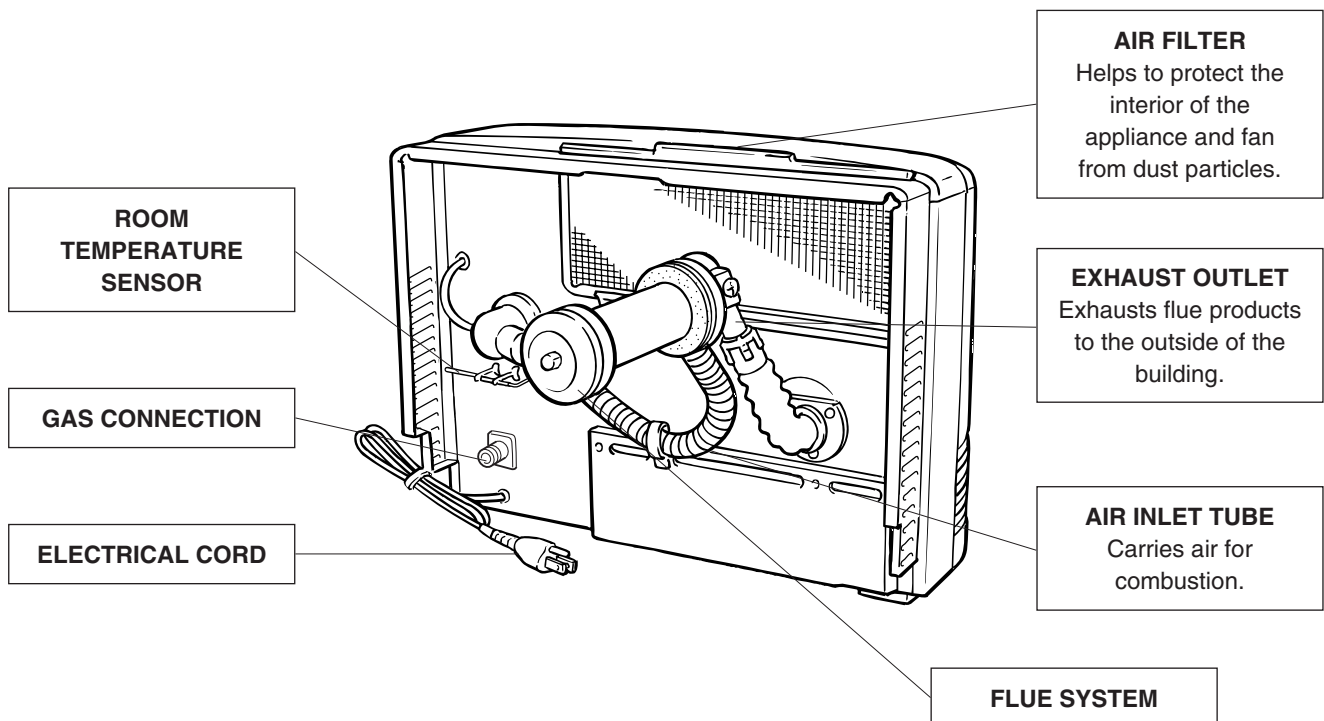
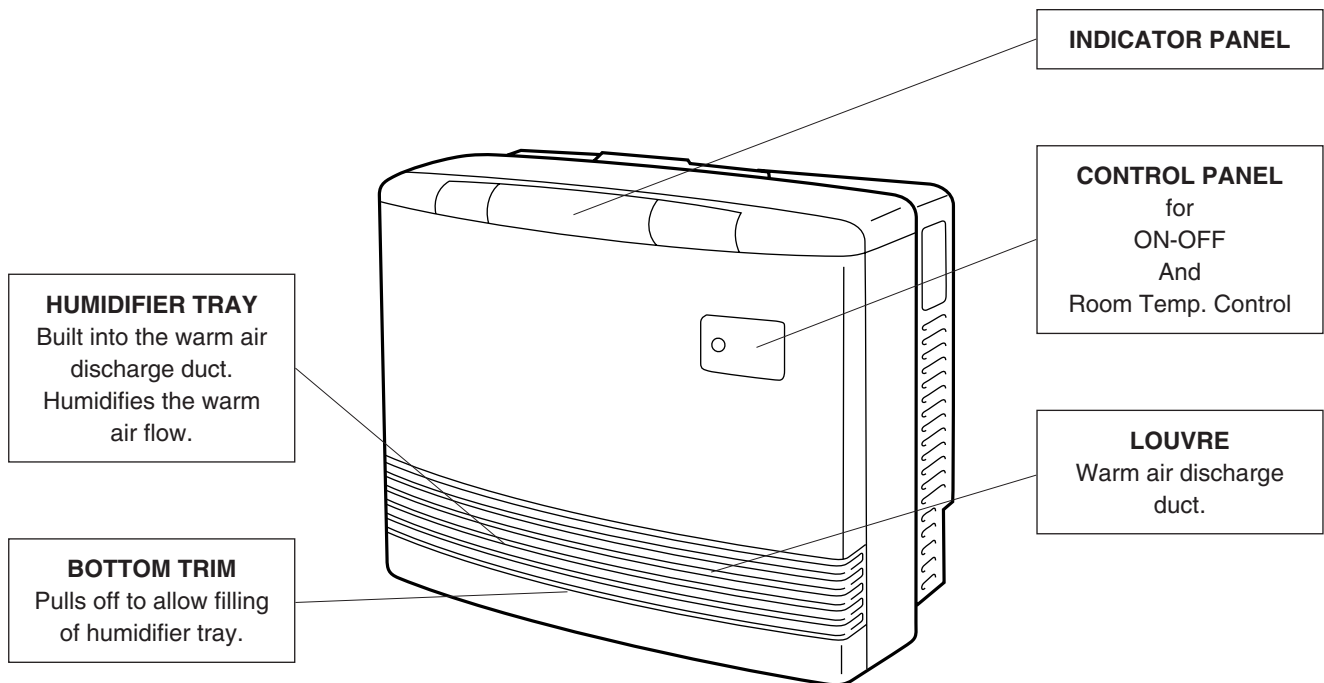
Telephone:

Licence number:

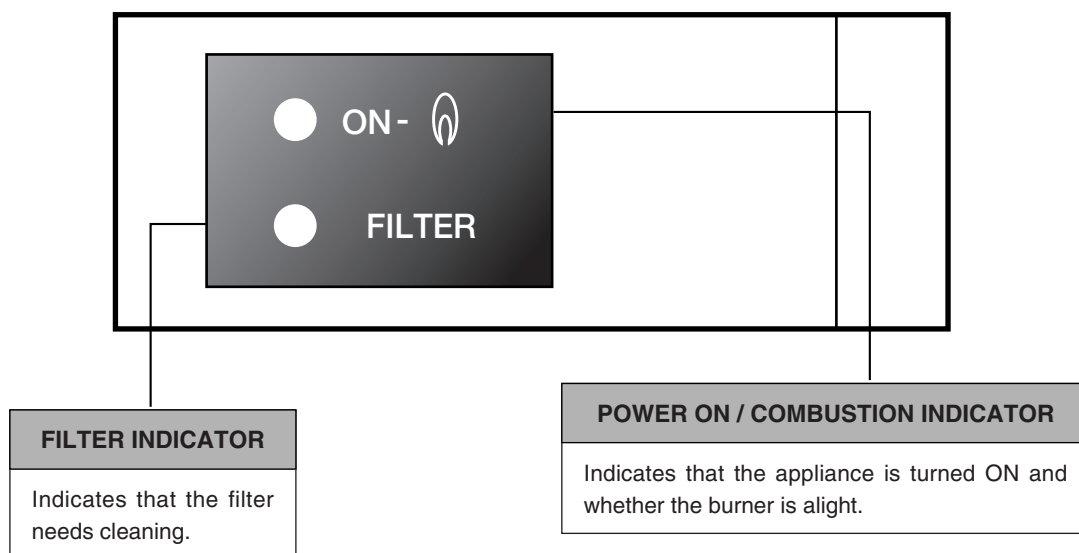
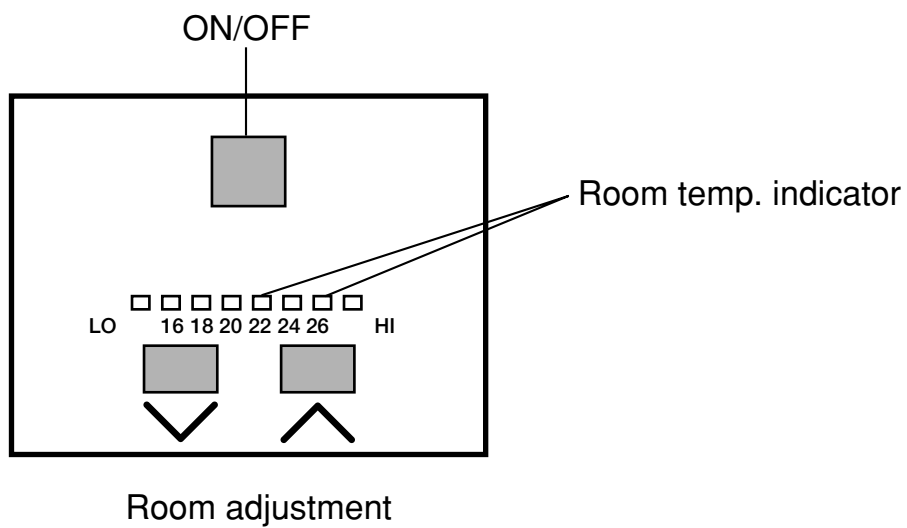
## CONDITIONS

1. It is a condition of this warranty that the heater shall have been serviced annually during its lifetime by a suitably qualified service engineer and that it shall have been fitted and used in accordance with the Company's Installation and Operating instructions.
2. Failing to use genuine Rinnai spare parts may invalidate the warranty.
3. The serial number of the heater must be supplied prior to any claim being made.

# GETTING TO KNOW YOUR NEW RHFE-556T



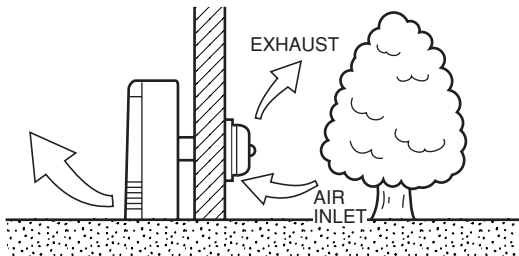
# CONTROL PANEL LAYOUT



# FEATURES

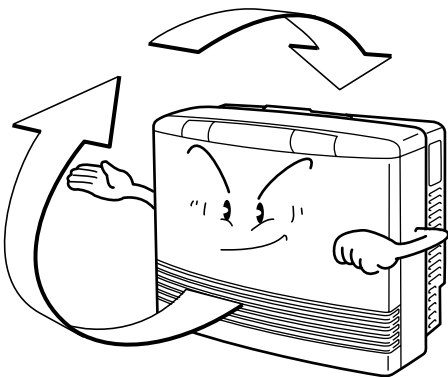
## FORCED FLUE SYSTEM

Air for combustion is taken from outside the room and the flue products are exhausted outside, keeping the room air clean.



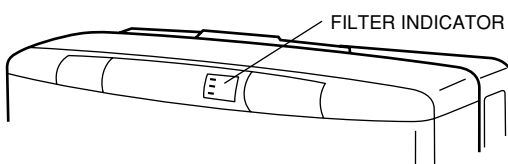
## WARM AIR DISCHARGE

Warm air flows from the bottom of the appliance through the louvres, assisting in even heat distribution. An integral humidifier tray is built into the warm air discharge duct.



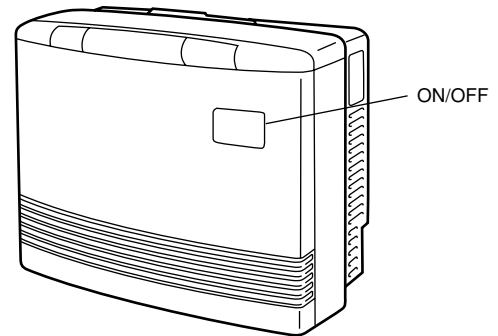
## FILTER INDICATOR

When the fan filter becomes covered with dust and the temperature inside the appliance rises, the filter indicator will flash. The filter should be vacuumed at regular intervals to avoid unnecessary strain on the appliance.



## PUSH BUTTON IGNITION

Only one touch of the ON/OFF switch is required to operate the heater.

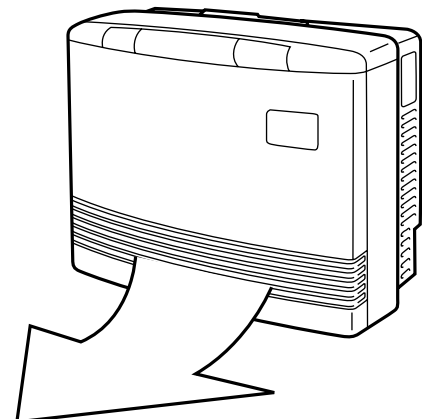


## CENTRAL CONTROL

This heater may be installed as part of a centrally controlled Time Clock System. In this case the heater can only be operated when the central time clock is "ON".

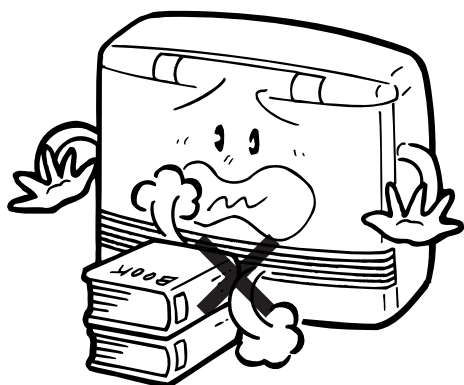
## AUTO COMFORT

Ensures that the flow of warm air from the louvres is maintained at a comfortable volume during the warm-up period by a 8 step modulating convection fan, in conjunction with the thermostat, reducing cool draughts.



# SAFETY POINTS

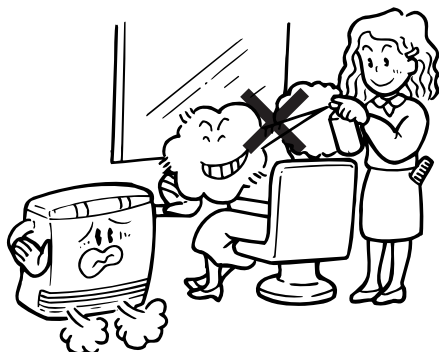
Do not restrict the warm air discharge by placing articles in front of the heater.



This appliance must not be used for any purpose other than heating.



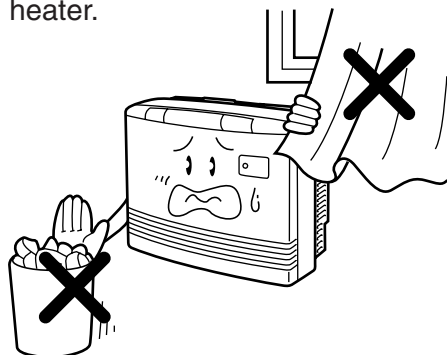
Do not spray aerosols whilst the heater is operating. Most aerosols contain butane gas, and can be a fire hazard if used near this heater when it is in use.



Flue Guard must be fitted if indicated on page 17.



Do not allow curtains or other flammable or combustible materials to come into contact with the heater.



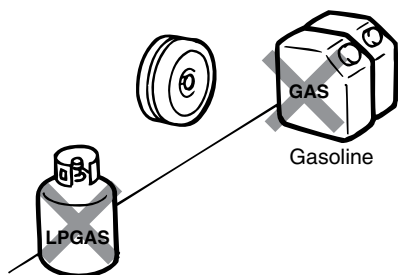
Combustible materials must not be placed where the heater could ignite them.

Do not allow anyone to sit on or lean against the appliance.

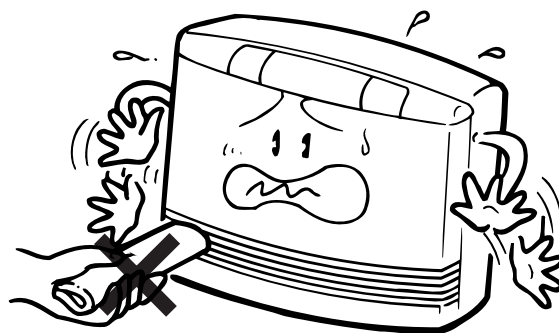


# SAFETY POINTS

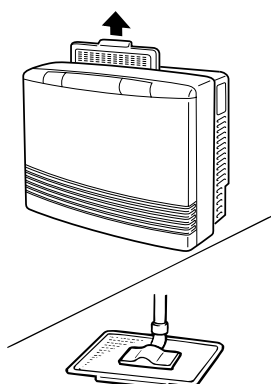
Keep flammable materials, trees, shrubs, etc, away from the flue terminal.



Do not allow anyone to post articles through the louvres.

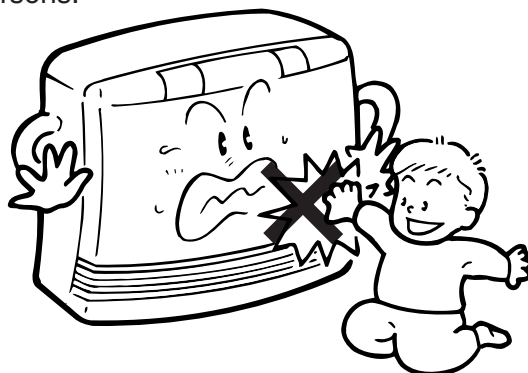


Filter should be cleaned at regular intervals.

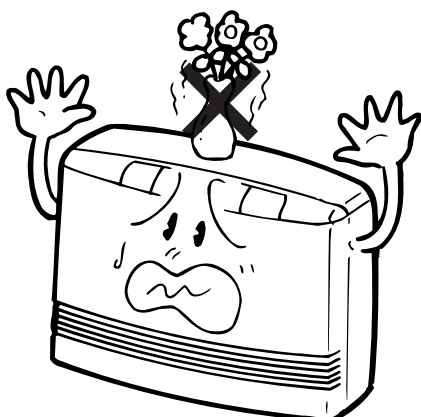


Clean with vacuum cleaner, weekly.

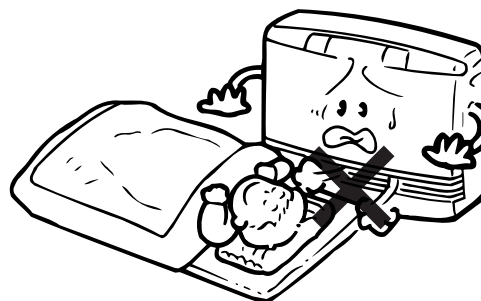
It is strongly recommended that a guard is fitted around heater where there are young children, elderly, infirm or handicapped persons.



Do not place articles containing liquids on top of the heater. Liquids spilt on the controls may cause extensive damage.



Do not allow young children or the infirm to sleep directly in front of the heater.





# OPERATING YOUR NEW RHFE-556T

## ■ TO OPEN THE CONTROL PANEL

Open Control Panel Cover with key provided.

## ■ TURNING ON (For manual operation please refer to page 21).

Press the ON/OFF button to operate the heater. The ON indicator will glow green. After approximately 20 seconds the spark generator will be heard before the burner ignites and the ON indicator glows red, indicating that the burner is alight. Warm air can be felt coming from the louvres 15 seconds later.

If the heater does not ignite on initial use, this may be due to air remaining in the gas supply line. The spark generator will only continue for 15 seconds. After this it will be necessary to press the ON/OFF button OFF, then ON again.

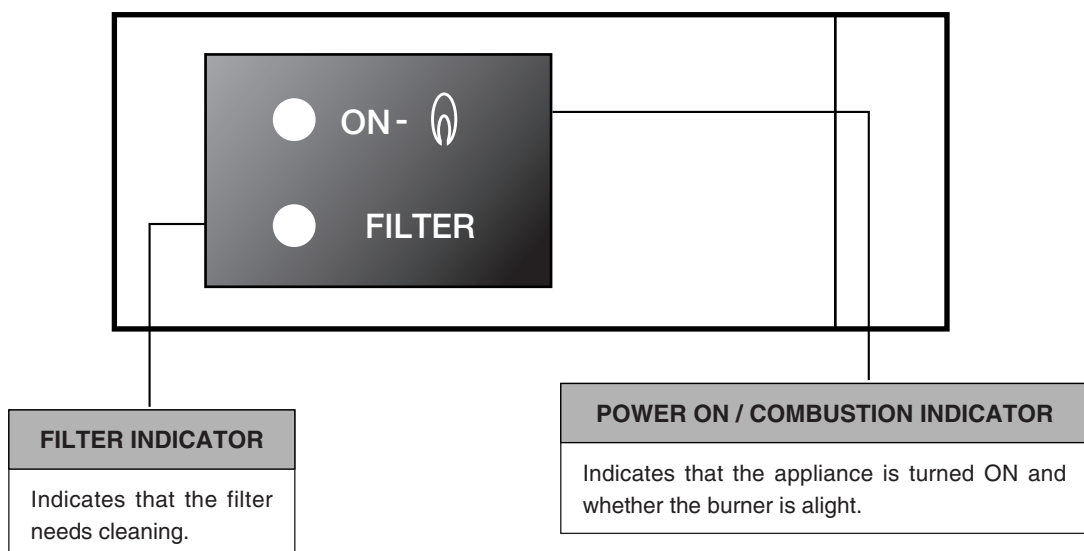
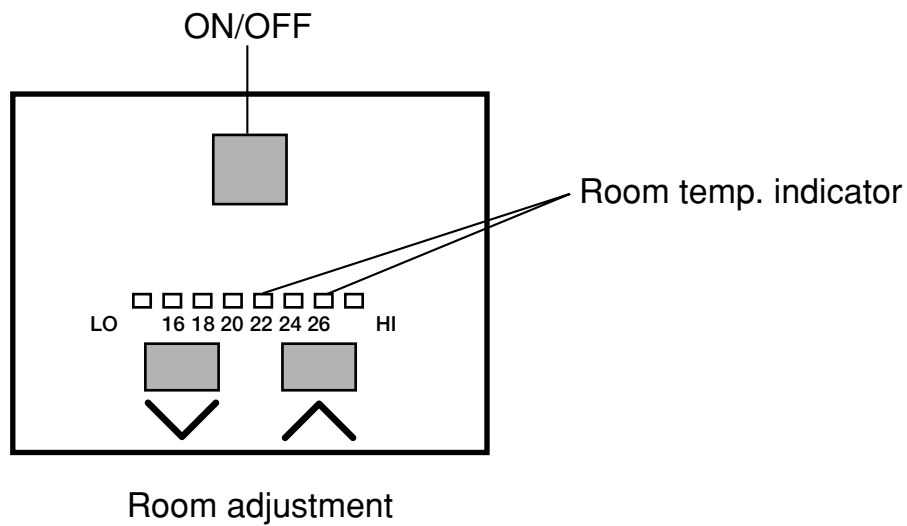
## ■ TURNING OFF

Simply press the ON/OFF button to switch off the heater. The ON indicator will go out. The convection fan will continue to operate for several minutes after the burner has gone out in order to cool the appliance. **Do not unplug the appliance while the convection fan is running.**

### IMPORTANT NOTE:

**DO NOT** turn heater off by unplugging at the power point.  
**The convection fan must continue to run until the appliance cools.**

# ROOM TEMPERATURE ADJUSTMENTS



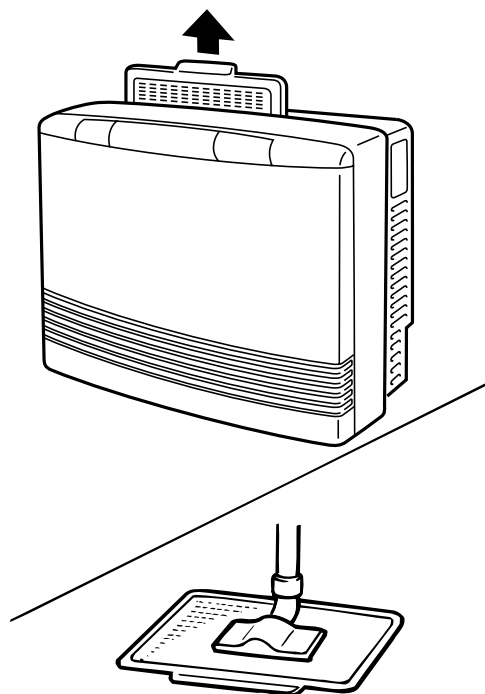
## ■ FAN FILTER

To protect the room air fan from dust particles or lint, a filter is situated at the rear of the appliance. When this filter becomes blocked, the filter indicator will flash to indicate that it should be cleaned. Clean the filter weekly during the heating season to avoid unnecessary strain on the appliance.

### **Do not remove filter when appliance is operating.**

When the filter requires cleaning, clean filter before using the appliance, or whilst the appliance is not operating.

If you do not clean the filter at regular intervals and the filter indicator is allowed to remain flashing, then the appliance will stop and [14] will flash on the Digital Display signifying that the inbuilt safety device has functioned. You must clean the filter before operating the heater again.

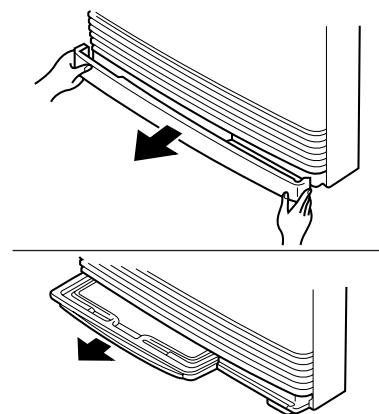


## ■ HUMIDIFIER TRAY

So that you can humidify the air, your Rinnai RHFE-556T is fitted with an enamelled tray at the bottom of the heater. If you choose to make use of the humidifier tray, it will need filling about once a day during the heating season. **Do not fill the humidifier tray while the heater is running.**

### **1** To fill the humidifier tray:

Remove the bottom trim panel, below the louvres, by pulling on both sides. Simply pull the tray forward to allow it to be filled with water. The warm air will be humidified as it passes over the water in the tray. Refit the bottom trim panel after filling the tray. The RHFE-556T is a very high efficiency appliance, during operation a small amount of condensation is produced in the flue system, this drains into the enamelled humidifier tray.

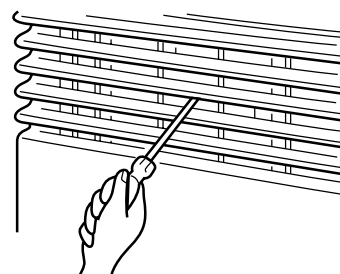


The humidifier has the benefit (when filled with water) of raising the humidity in the air. With increased humidity, the heater can actually be run at a lower temperature while still maintaining the same level of comfort.

## ■ VERTICAL LOUVRE ADJUSTMENT

The warm air flow direction may be altered by inserting a screwdriver or similar tool and gently bending the vertical louvre(s) either to the left or the right.

**Note: these louvres are not designed to be adjusted more than 6 times.**



# CARING FOR YOUR NEW RHFE-556T

This appliance is safely controlled. If there is something wrong then it will stop, as it is protected by the following safety devices.

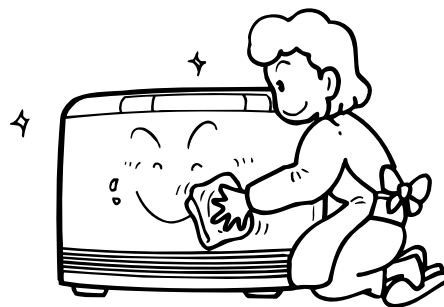
Ignition Safety Device  
Burner Safety Device  
Overheat Safety Device

Power Failure Safety Device  
Power Surge Safety Device  
Fan Delay Safety Device

Your RHFE-556T requires very little maintenance, simply clean the rear fan filter once a week and wipe the outer case and louvre section with a damp cloth.

## DO NOT USE SOLVENTS.

Solvents may melt or distort plastic parts.



Problem Cause	No ON indicator	Burner doesn't ignite	Unusual combustion	Combustion stops during operation	Smell of gas	Noisy Ignition	Takes too long to warm the room	Remote control doesn't work	Remedy
Not Plugged In	●	●							Plug In
Power Cut	●	●		●					Re-ignite manually after power is restored
(Initial Installation) Air in gas pipe		●							Purge air (Installer)
Gas Filter Blocked		●	●				●		Service Call
Missed Ignition	●	●							Service Call
Flue terminal obstructed			●	●		●			Clear obstruction
Flue manifold not connected						●			Service Call
Louvre obstructed				●			●		Clear obstruction
Air filter blocked				●			●		Clean filter (weekly)
Gas Escape					●				Service Call
Gas turned off at meter	●	●							Turn gas on

# PRE-SERVICE CHECK

**Before asking for a service call please check the following points.**

These points are part of the normal operation of the unit.

## ■ At Ignition:

Heater does not operate.



Is the heater plugged in?  
Have the fuses or breaker blown at the switch board?  
Is there a power failure?  
Is the air filter blocked?  
Is anything blocking the outlet for the hot air?  
Is the flue blocked?  
Is a remote timer fitted and set "ON".

Warm air does not flow when the burner lights.



The fan is started automatically after a short delay.  
This is to allow the heat exchanger to warm up, helping to avoid cold draughts.

Smoke or strange smells are produced on the first trial light up after installation.



This is caused by grease or oil and dust on the heat exchanger and will stop after a short time.

Sharp clicking noises at ignition, or when the unit cuts down on the thermostat, or goes out.



This is simply expansion noise from the heat exchanger.

## ■ During combustion:

Clunking noise when the thermostat operates.



This is the sound of the solenoid gas valves opening and closing.

Unit is not heating room.



Is the air filter blocked?  
Is the set temperature high enough?  
Is the warm air outlet blocked by anything?  
Are the doors and windows of the room closed?

Air filter is blocked or the louvres are blocked or obstructed.



Allow heater to cool, clean air filter, operate again.

Heater will not re-ignite after overheating.



Even after unit has cooled down the heater does not ignite again. Repair is necessary.  
Contact your local agent or Rinnai for a Service call.

## ■ When the unit is turned off:

Convection fan continues to run after turning OFF.



This is to remove the residual heat from the heat exchanger, the fan will stop when the heater cools down.

## ■ Other Points:

Steam is discharged from the flue terminal.



High efficiency appliances tend to discharge water vapour on cold days, this is normal.

Unit cuts off without apparent reason.



Check whether filters are blocked, dirty filters will cause the heater to overheat.

Power Failure.



Switch OFF, then ON again when power is restored to re-set controls.

# ERROR MESSAGES

The Energysaver 556T has the ability to check its own operation continuously. If a fault occurs, an Error Message will flash on the Digital Display of the control panel. This assists with diagnosing the fault, and may enable you to overcome a problem without a service call. Please quote the code displayed when inquiring about service.

CODE DISPLAYED	FAULT	REMEDY
16	Missed Ignition	Check gas is turned ON. Service call if repeated.
LO	Flame failure	Check gas is turned ON. Service call if repeated.
20	Overheat	Clean filter Service call if repeated.
HI	Room overheat	Lower room temperature to less than 40°C.
22 · 24	Room Temperature Sensor faulty	Service call.
24 · 26		
18 · 20 · 22	Overheat Temperature Sensor faulty	Service call.
20 · 22 · 24		
LO · 16 · 18	Sparker failure	Service call.
16 · 18 · 20	Combustion fan failure	Service call.
18 · 20	Faulty ON/OFF switch	Service call.
LO · 16	Faulty solenoids	Service call.
26	Faulty Flame Rod	Service call.
22 · 24 · 26 · HI	Communication Error	Turn heater OFF, then ON again.
16 · 18 · 20 · 22 · 24	Flue Block	Check around flue terminal

In all cases, you may be able to clear the Error Message simply by turning the heater OFF, then ON again.

If the Error Message still remains or returns on the next operation contact Rinnai UK Ltd or your Supplier and arrange for a service call.

# INSTALLATION INSTRUCTIONS

## Important Safety Instructions

1. Gas Safety (Installation & Use) Regulations 1998 are the 'Rules in Force'.  
In your own interest and that of safety, it is law that all gas appliances shall be installed by competent persons in accordance with the above regulations.  
Failure to install appliances correctly could lead to prosecution. Other persons should NOT attempt to install this equipment.
2. Unpack the appliance and check it carefully. If it appears to have any operating defects DO NOT INSTALL, but contact the supplier.
3. This appliance is intended to be used to raise the temperature in a room or office etc. You should NOT use it for any other purpose without seeking advice from the supplier.
4. This appliance is safe if correctly installed and sited. Please comply CAREFULLY with the instructions.
5. This appliance is to be used for NATURAL GAS (G20) and PROPANE (G31) only. It must NOT be used with any other type of gas.
6. Installation MUST be carried out in accordance with the current issue of:
  - a) Building Regulations issued by the Dept. of the Environment and Building Standards (Scotland Consolidation) Regulations.
  - b) I.E.E. Wiring Regulations for electrical installations.
  - c) Gas Safety (Installation and Use) Regulations 1998.
  - d) BS5871 Part 1:2001
  - e) BS5440 Part 1:2000 and Part 2:2000
  - f) BS6891 Part 1:1998 (Natural Gas) and BS5482 Part 1:1994 (Propane).
  - g) Local Byelaws
  - h) Children & Young Persons Act 1933 revised 1952
  - i) Health and Safety at Work etc. Act, 1974
  - j) Such other specifications or legislation that may have superseded the above documents.
7. Should the heater be fitted in a room where there are young children; elderly; infirm or handicapped persons, it is strongly recommended that a guard is fixed around the heater.

Guards conforming to British Standard Specification 6778:1986 (Fireguards for Use with Portable Free Standing or Wall Mounted Heating Appliances) in respect of fixing, strength and painted finish are acceptable and overall dimensions should be such that there is a gap of at least 100mm (4 inches) between the guard and the heater. Standard guards that meet these requirements are available from the supplier.

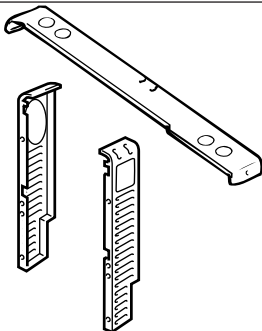







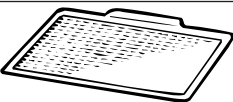




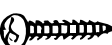
Please be sure you are aware of the implications of these notes.

# INSTALLATION INSTRUCTIONS

## SPECIFICATION

Input: 6.4kW (21840 Btu/h) Burner: Stainless Bunsen Type  
 Ignition: Continuous Spark Gas Inlet: 1/2 inch BSP Male Connection  
 Flue: Forced Flue (Components are supplied with appliance).  
 Gas Control: Rinnai Electronic Modulating Controls.  
 Electrical Supply: 230V, 50Hz This appliance is fitted with a supply lead and 3 pin plug.

■ Remove parts from carton and check that all parts shown below are included in the installation kit.

Back Spacer Set		1	Flue Locking Clamp		1
			Flue Lock Stopper		1
			Insulation Clip		1
Wall Bracket		2	Hose Clip		2
Angle Bracket					
Customers operating information and Installation Instructions		1	Plastic tie for air inlet		3
Air Filter		1	(M4×20)		1
(M4)	 For Back Spacer Set	4	(M4)	 Flue Securing Screws	3
(M4)	 For Air Intake Clip	5	(M4.8×32) Wood Screws	 Wall Bracket Screws	2

Check the unit supplied is correct for the gas type in your area.  
 Refer to local gas authority for confirmation of gas type if in doubt.  
 Refer to data plate located on the right hand side.  
 Check for damage, if the unit is damaged contact **Rinnai**.  
 Do not install a damaged unit before checking with your supplier.  
 Refer to an approved pipe sizing chart if in doubt about size of gas line.



# LOCATION

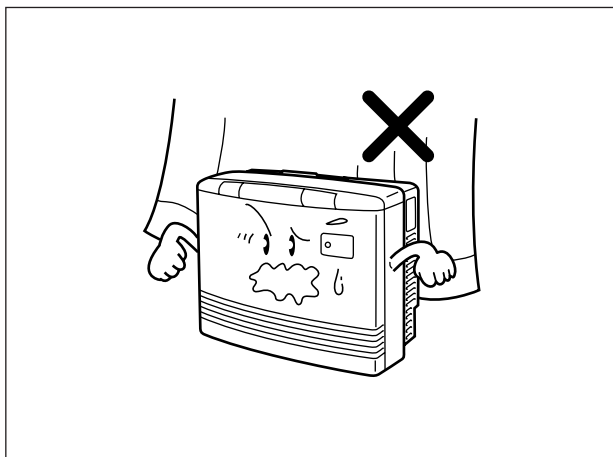
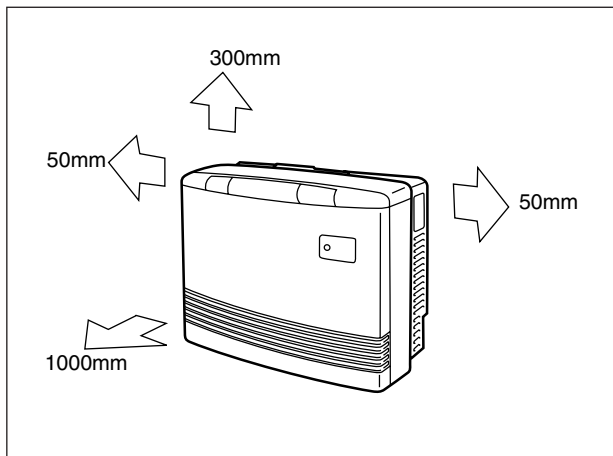
When positioning the heater the main points governing the location are:

1. Flueing
2. Warm air distribution

This heater must not be installed where curtains or other combustible materials could come into contact with it.

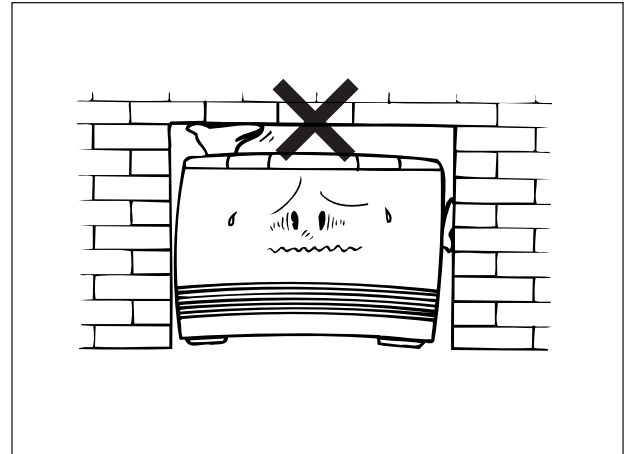
In some cases curtains may need restraining.

See diagram for other recommended clearances.

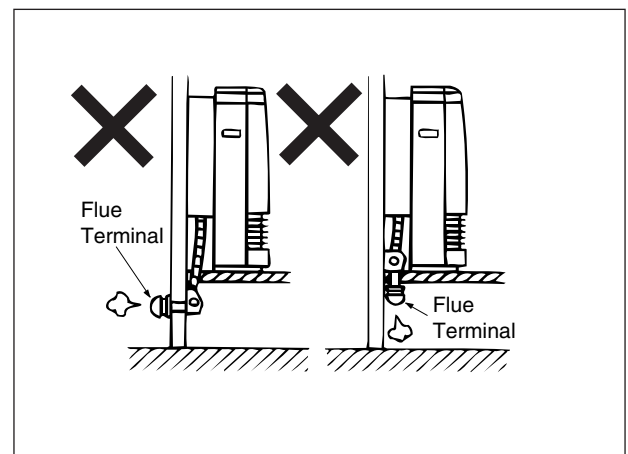


Flue fittings must be kept clear of flammable materials.

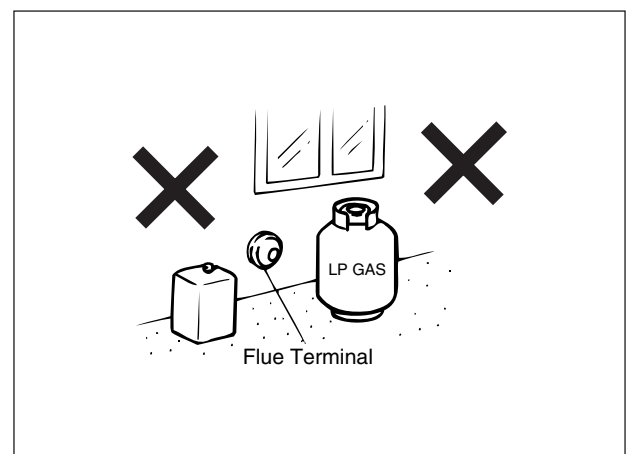
This heater is not designed to be built in.



The flue is not designed to be positioned under floors, or below the level of the heater.



The flue terminal should be positioned away from flammable materials.

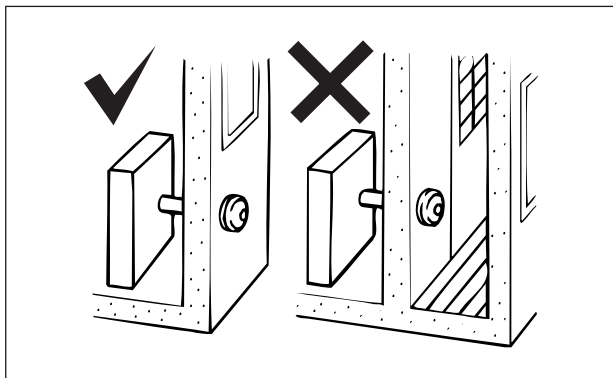


# LOCATION

Do not flue into natural draught flues or fireplaces, this unit can only be used with one of the six types of Rinnai flue kits.

Do not flue unit into other rooms.

Flue terminal must be outside.



When fitting the terminal beneath any ventilation opening i.e. openable window, inlet to a ventilation system etc., check that no part of the terminal will finish within 300mm when measured vertically from the bottom of such openings. When the terminal will finish less than 2m above the level of any ground to which any person has access, a terminal guard of durable material must be fitted, and these are available from your supplier.

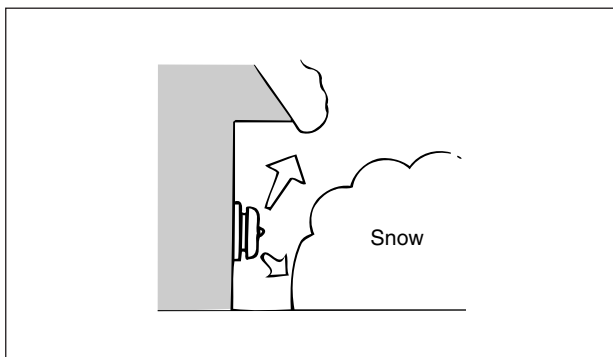
## FLUE SIZES

6 Flue lengths are available.

S	flue suits wall	75	-	115 mm
A	flue suits wall	115	-	240 mm
B	flue suits wall	240	-	400 mm
C	flue suits wall	400	-	600 mm
D	flue suits wall	600	-	800 mm
E	flue suits wall	800	-	1000 mm

25mm spacers are available for wall thickness less than 75mm.

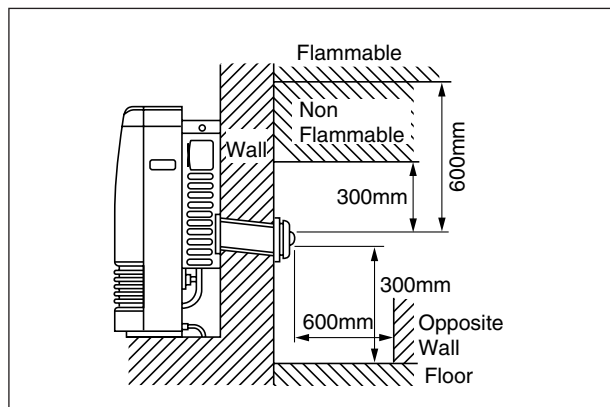
## SNOW AREAS



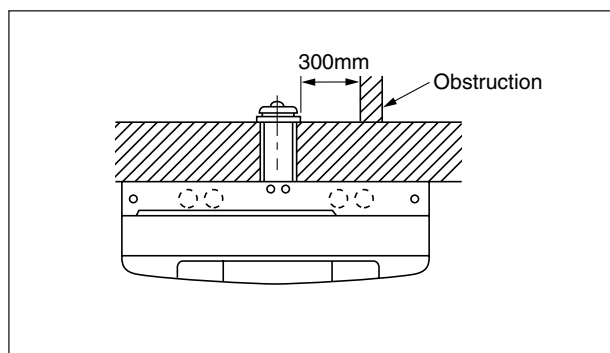
In areas subject to heavy snowfall, keep snow clear of flue terminal at all times.

## STANDARD INSTALLATION OF FLUE MANIFOLD.

Diagram below shows minimum clearances and distances from obstructions. Also check local regulations.

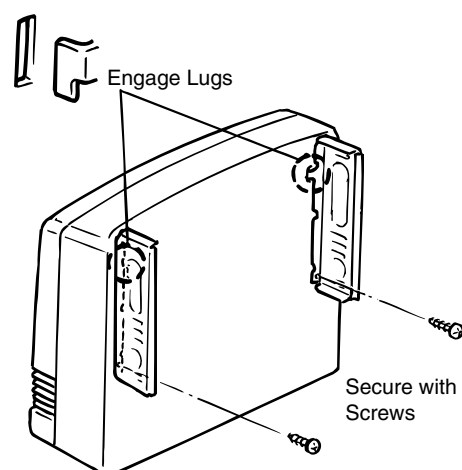


## Side Clearances

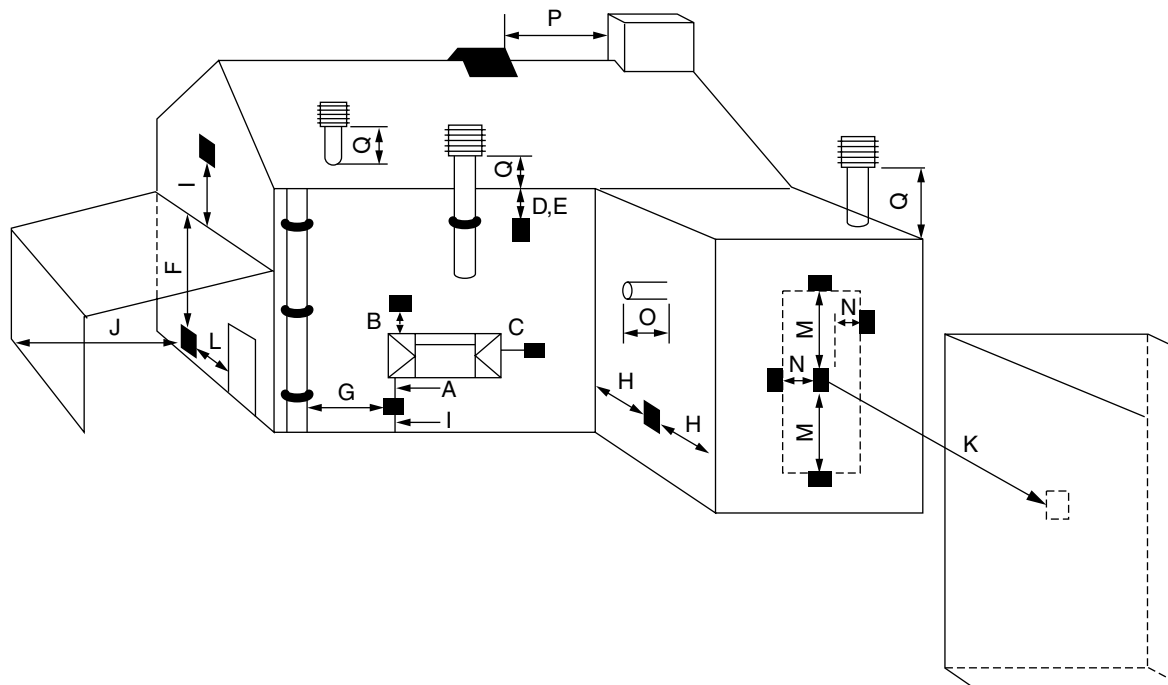


## FIT BACK COVERS (SIDES ONLY)

Fit back covers (sides only) as shown below.



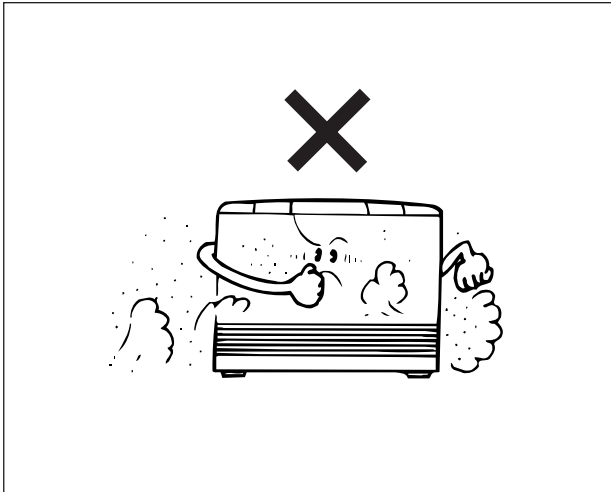
# POSITIONING THE FLUE TERMINAL



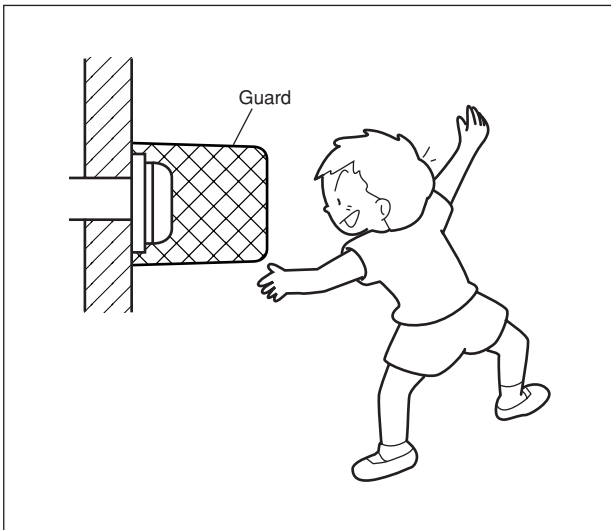
Dimension	Terminal Position	Distance
A	Directly below an opening, air brick, opening windows, etc.	300mm
B	Above an opening, air brick, opening window, etc.	300mm
C	Horizontally to an opening, air brick, opening window, etc.	300mm
D	Below gutters, soil pipes or drain pipes.	75mm
E	Below eaves.	200mm
F	Below balconies or car port roof.	200mm
G	From a vertical drain pipe or soil pipe.	150mm
H	From an internal or external corner.	200mm
I	Above ground, roof or balcony level.	300mm
J	From a surface facing the terminal.	600mm
K	From a terminal facing a terminal.	1200mm
L	From an opening in a car port. (e.g. door, window) into a dwelling.	1200mm
M	Vertically from a terminal on the same wall.	1500mm
N	Horizontally from a terminal on the same wall.	300mm
O	From the wall on which the terminal is mounted	N/A
P	From a vertical structure on the roof.	N/A
Q	Above an intersection with roof.	N/A

# LOCATION

Do not install the heater in an unusually dusty area.



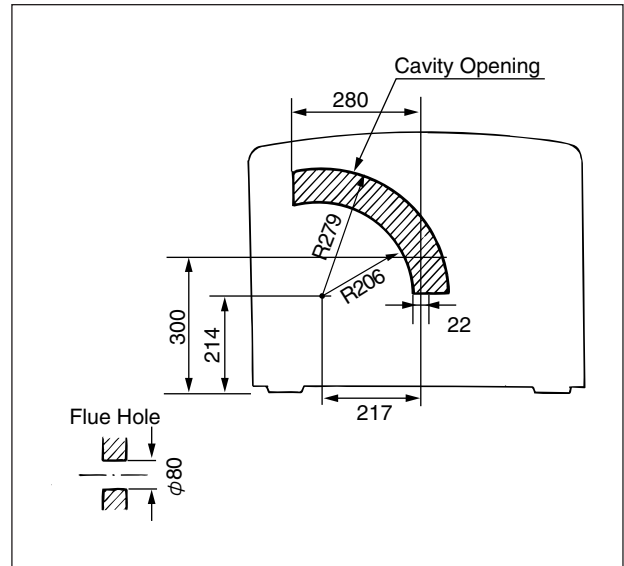
Use a flue guard if the terminal is easily accessible to children.  
Check local regulations.  
Guards are available as an optional extra.



Floor must be level, but see page 23 regarding adjustable legs. Do not use electrical extension cords to connect unit to power supply. Keep the power cord away from the flue.

## FLUE MANIFOLD POSITION.

Centre of hole for flue manifold can be drilled anywhere within the shaded area. (To avoid studs etc.)



Before drilling the flue hole, check for water and gas pipes as well as electric cables.

Use an 80mm (8cm) drill for hole through wall.

## MOUNTING TO WALL

Assemble Angle Brackets to Back Spacer Top with screws provided. Locate heater in position, hold Wall Bracket in position around Angle Bracket and mark hole positions, remove heater. Secure Wall Bracket to wall. Relocate heater in position ensuring Angle Bracket engages with Wall Bracket.

## FLUE EXTENSION KITS

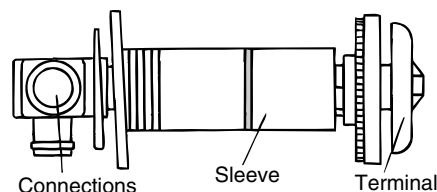
Flue extension Kits are available to allow longer flueing lengths. Contact Rinnai for information.

# SLEEVE AND MANIFOLD INSTALLATION

## METHOD FOR STANDARD WALLS

### 1. Dis-assemble Manifold from Sleeve.

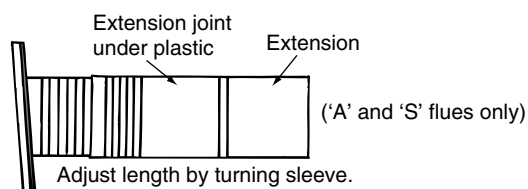
The flue consists of 3 parts, sleeve, inside connectors and tube, outside terminal; (dis-assemble by pulling hard on outside terminal and inner connections, then pull sleeve off outer terminal).



### 2. Adjustment of Sleeve Length.

Measure wall thickness through previously drilled 80mm hole.

End of sleeve should protrude 5-10mm from outside wall. Adjust sleeve length to wall thickness plus 5-10mm. (Sleeve is threaded for adjustment).

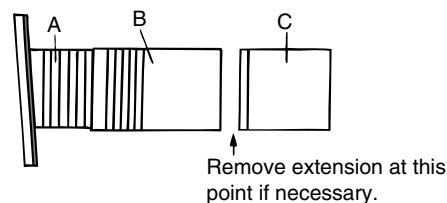


### 3. For A and S flues only

Depending on flue set and wall thickness extension piece 'C' may need to be removed. Cut plastic, remove extension, then follow instruction 2.

This applies to 'A' and 'S' flues only.

There is no extension on other flues, they can be fully adjusted by turning the threaded section.



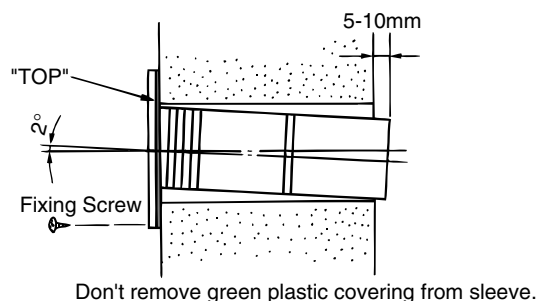
### 4. Fixing Sleeve.

Fix to the wall, using the 3 screws provided.

#### NOTE:

The flange is marked "TOP", sleeve must be fitted with this mark UP.

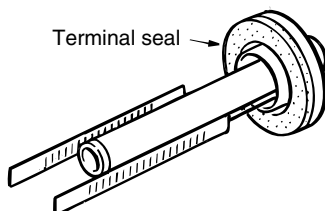
Check sleeve protrudes 5-10mm on the outside.



# SLEEVE AND MANIFOLD INSTALLATION

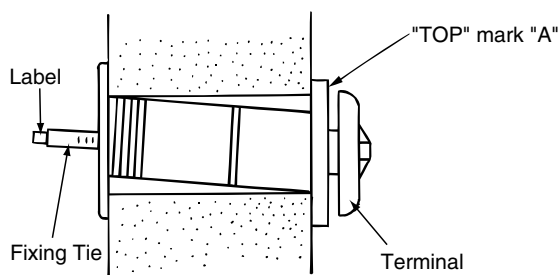
## METHOD FOR STANDARD WALLS

5. Check rubber seal is in place on terminal.



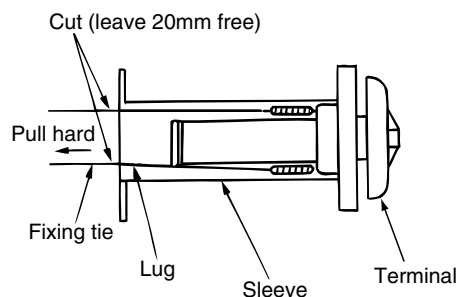
6. Installation of Terminal

From outside, insert terminal into sleeve with the "A" mark at the top. Left hand side fixing tie is marked "LEFT" (from inside).

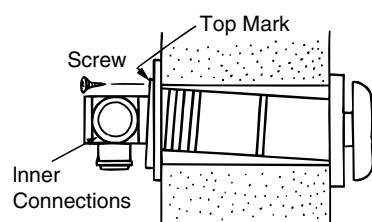


7. Attaching Ties

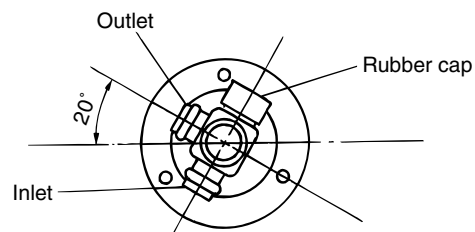
Pull hard on left and right hand side ties, clip ties over lugs inside sleeve. You should be able to pull ties 2 or 3 slots past the starting point. Cut the ties, leaving about 20 mm past the lugs. Bend ties so they are parallel with the wall.



8. Insert Inner Connection Assembly. Push assembly into the terminal tube, make sure "TOP" mark is uppermost. Fix with 3 screws provided.

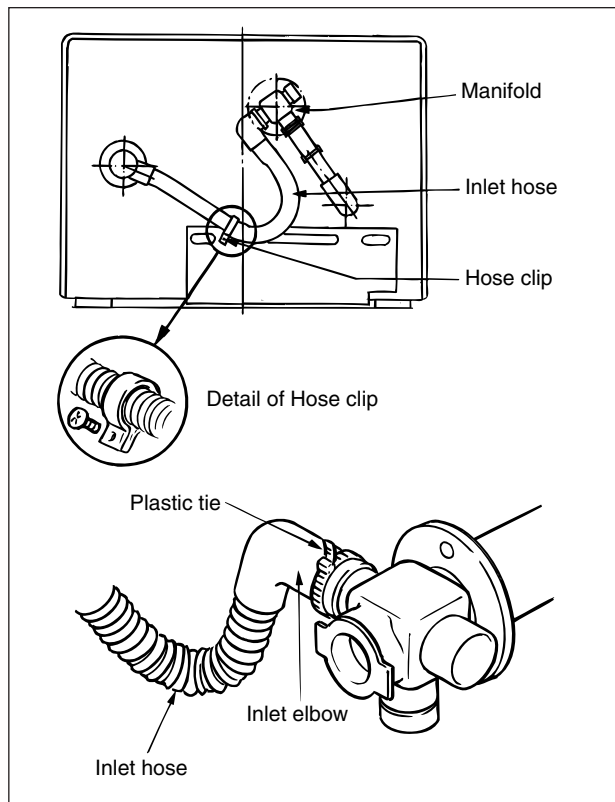


9. Manifold can still be turned after attaching.



# FITTING UNIT

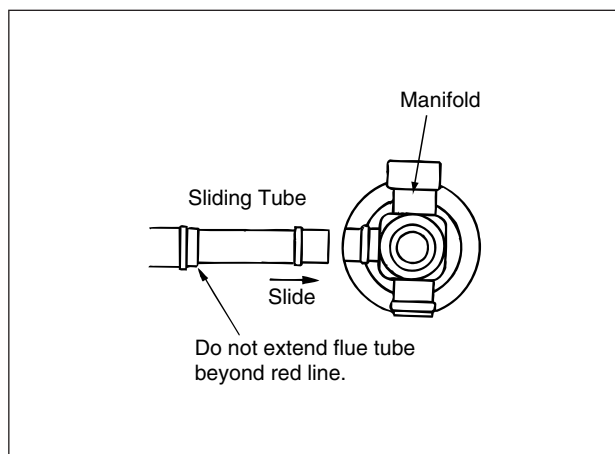
## AIR INLET HOSE



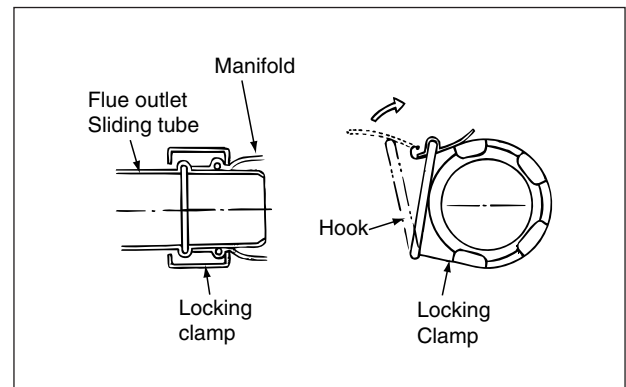
## LOCKING CLAMP, SCREW CLAMP AND INSULATION.

The following components can be fitted by reaching down the rear of the appliance as it is positioned against the wall.

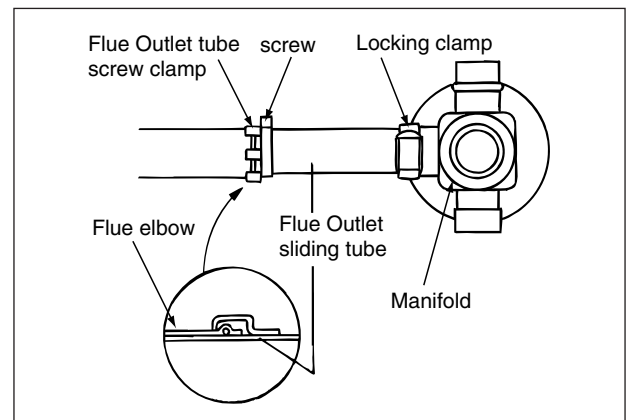
1. Connect the flue outlet to the manifold by extending the stainless steel sliding tube until it is fully inserted into the manifold.



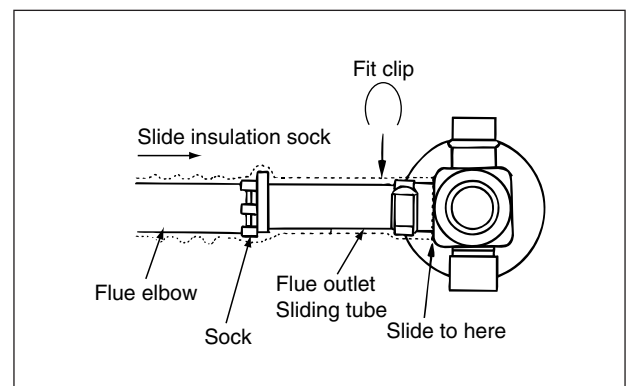
2. Fit the locking clamp over connection between sliding tube and manifold. Engage the hook and rotate it until it snaps against the body of the clamp.



3. Fit the screw clamp between the sliding tube and the flue elbow. Secure with the 4 mm screw supplied. The flue outlet is now locked into position.



4. Slide the insulation sleeve up to the flue manifold, slip the securing clip over the sleeve as shown.



# CONNECTING GAS AND ELECTRICAL SERVICES

## 1. GAS CONNECTION.

Purge any air or swarf from the gas line. Connect up the appliance to the gas supply using a union service cock to facilitate servicing. Do not use hot works near the unit or the gas valve may be damaged.

Inlet connection size Gas (1/2 inch BSP Male Connection)

Check gas soundness using leak detection fluid, not naked flame. Connection can be easily reached from right hand side rear of appliance. Remove bottom trim (pulls off). Remove louvres (6 screws) and front panel.

## 2. ELECTRICAL CONNECTION.

**WARNING:** This appliance must be earthed.

This appliance is suitable for 230V - 50Hz mains only and external wiring must be carried to out I.E.E. regulations.

Connect appliance to electrical supply using moulded plug supplied. A means of completely isolating the heater from the supply with contact separation of at least 3mm. on all poles must be provided for servicing. The fuse should be 3amp.

Observe polarity and ensure that wiring is correctly restrained

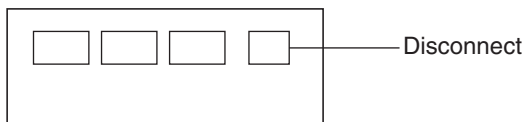
E Earth	$\perp$ Green / Yellow
L Live	Brown / Red
N Neutral	Blue or Black

### IMPORTANT

Do **NOT** use a clock or any type of switch on the electrical supply apart from the means of isolating the supply for servicing. (A clock or switch would also turn **OFF** the convection fan causing overheating).

- On the rear right hand side of the heater (seen from the front) there is a terminal block with 3 numbered terminals. As delivered there is a link between terminals 2 and 3 and should be left like that where the dimension between the heater and the flue does not exceed 1.8 metres. For dimensions of more than 1.8 metres, change the link to connect between terminals 1 and 2.
- This heater may be controlled (1) individually and manually OR (2) from a central clock. If the unit is to be controlled from a central timeclock the wiring for the clock must be done before the heater is fixed into position.

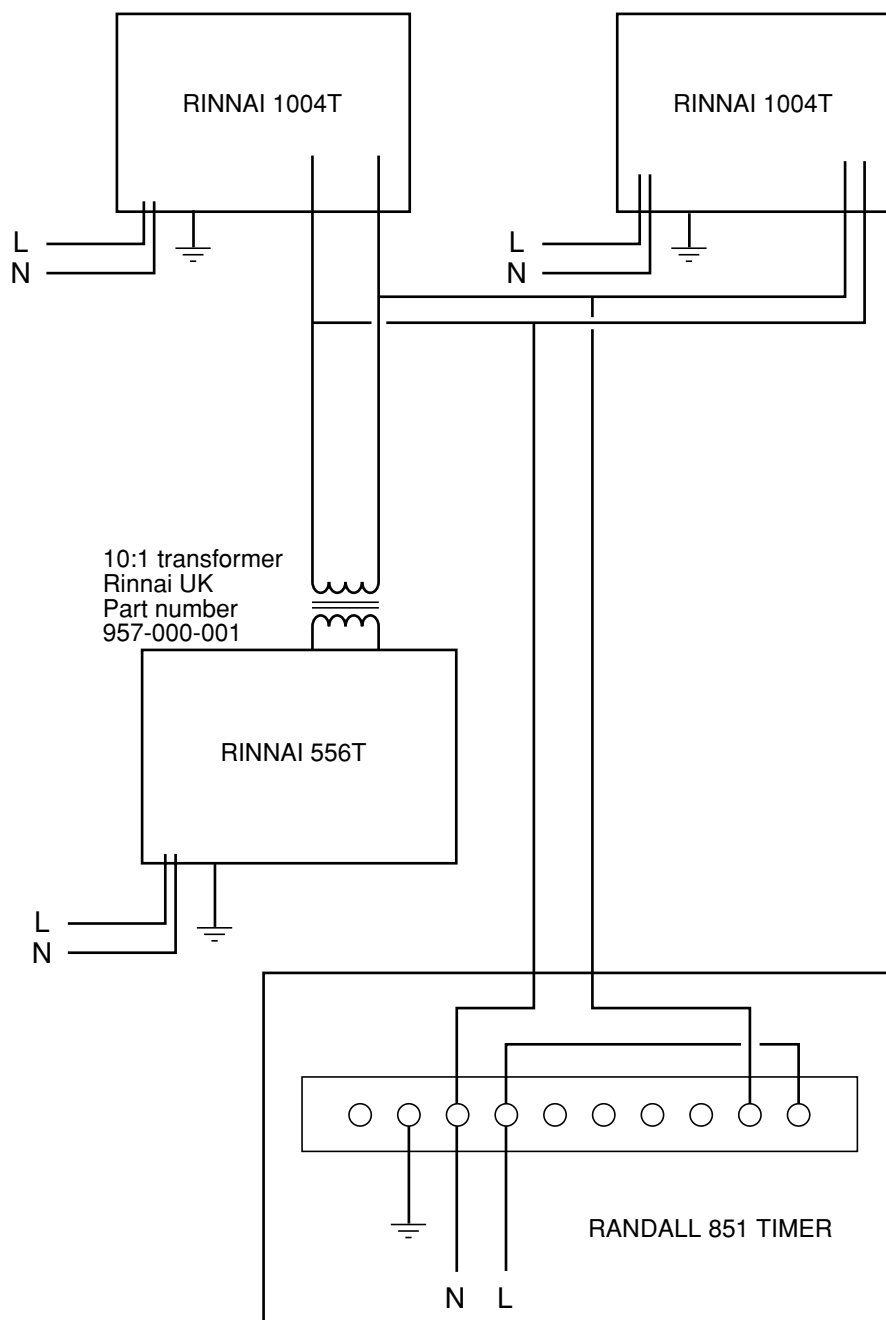
- For simple manual control, disconnect the plug on the top of the printed circuit board and use **ON / OFF** switch and adjust thermostat as required.



- For central timer control, a transformer kit is required. See price list or contact **Rinnai** for advice.
- For use in Offices or Schools etc. where all heaters are connected to a central control system which shuts down all services at the end of the working day but where individual heaters can still be set up to separate users needs, refer to **Rinnai** for appropriate Conversion Kit.



# RINNAI 1004T/556T WIRING DIAGRAM USING RANDALL 851 PROGRAMMER

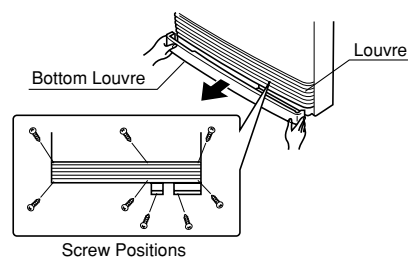


# GAS CONVERSION

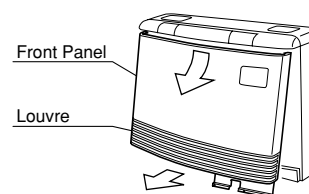


✱ Disconnect electrical supply

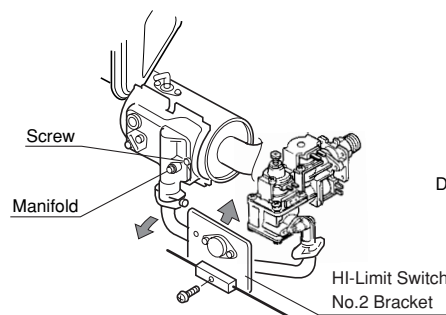
1. Remove bottom trim (pull)
2. Remove 8 screws inside bottom louvre, pull complete front panel forward at bottom, unclip from escutcheon panel and remove from heater
3. Replace small gas label on gas inlet.
4. Replace large gas label on back of appliance
5. Change very small gas label on Data Plate
6. Complete details on conversion sticker, place sticker inside left hand side panel
7. Undo main gas tube connection at manifold, 1 screw, push tube down
8. Remove "O" ring from manifold connection and refit to main gas tube (to avoid trapping "O" ring when re-assembling)
9. Remove manifold, (2 screws) take care with gasket
10. Carefully remove front damper, (1 screw) see drawing 4.
11. Using pointed nose pliers, carefully pull the right hand damper forward, and out of the burner assembly
12. Gently fit new damper-tag faces to the right
13. Refit front damper
14. Remove injectors
15. Fit new main injectors
16. Refit manifold, (slide into pin locators) then secure with screws, take care with gasket
17. Connect main gas tube, take care with "O" ring
18. Connect appliance to electricity (and gas if disconnected).
19. Follow gas pressure setting procedure, see next page.
20. Test for gas escapes
21. Replace front cover



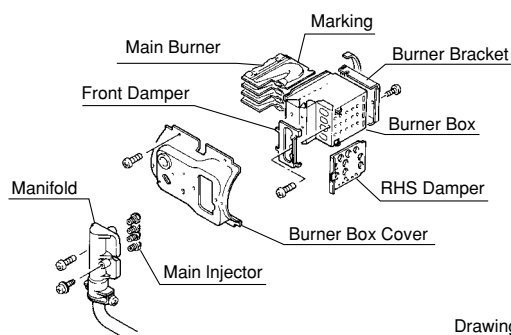
Drawing 1.



Drawing 2.



Drawing 3.



Drawing 4.

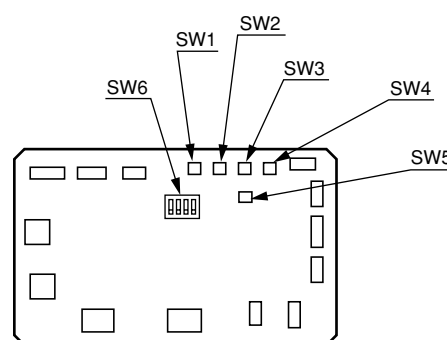
# TESTING

## PRESSURE CHECKING PROCEDURE:

**Caution- 230 V inside appliance.**

1. Check that SW6 (Dip switches) are correct for the gas type for which the appliance is to be used. (Refer to diagram opposite).
2. There are two test points, one on the heat exchanger, one on the gas manifold. Connect a differential pressure gauge between both test points. (Connect one side of the gauge to one point, the other side of the gauge to the other). If you are using an electronic manometer, connect the  $\ominus$  side to the heat exchanger test point.
3. Press the ON/OFF button to operate the appliance.
4. With the appliance operating, press SW5 once.
5. Press SW4 to operate the appliance on forced low.
6. Compare the pressure to the low pressure shown on the bottom of this page.
7. Press SW4 again.
8. Press SW3 to operate the appliance on forced high.
9. Check the pressure against the high pressure shown on the bottom of this page.
10. Press SW3 again.
11. Press SW5 again to return the heater to normal operation.
12. Turn the heater OFF, remove the pressure gauge, and replace the test point screws.
13. Reassemble appliance, set the remote clock if fitted, (see page 21) and check appliance operation. When appliance is on check test points for gas tightness.

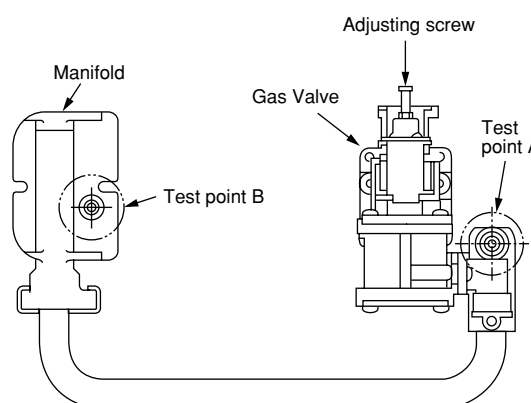
		SW6 DIP SWITCH			
556T	NG	OFF	ON	OFF	OFF
	LPG	ON	OFF	OFF	OFF
		1	2	3	4



THE REGULATOR HAS BEEN FACTORY PRE-SET. IF THE PRESSURE IS INCORRECT, CHECK THE SUPPLY PRESSURE FIRST, BEFORE MAKING ANY ADJUSTMENT TO THE APPLIANCE.

ADJUSTMENT OF BURNER DIFFERENTIAL PRESSURE IS BY MEANS OF THE ROOM ADJUSTMENT BUTTONS ON THE CONTROL PANEL AND FOLLOWING THE INSTRUCTIONS GIVEN BELOW:

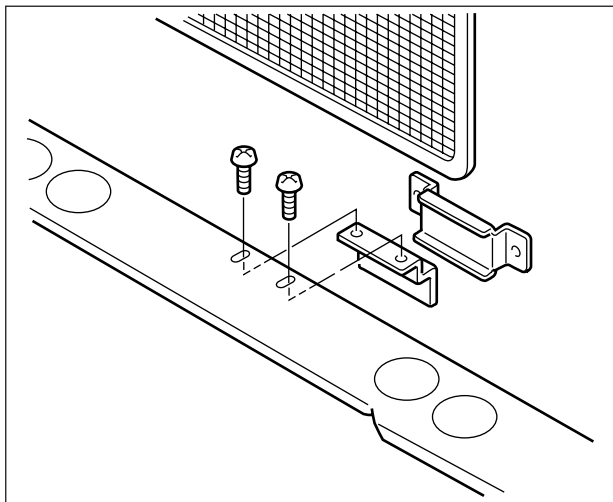
1. Follow checking procedure 1-6, reset the low pressure by using the “▲” or “▼” buttons on the control panel.
2. Press SW4 again to lock in the selected setting.
3. Follow checking procedure 8 and 9, reset the high pressure by using the “▲” or “▼” buttons on the control panel.
4. Press SW3 again to lock in the selected setting.
5. Press SW5 to return the heater to normal operation.
6. Turn the heater OFF, remove the pressure gauge, and replace the test point screws.
7. Reassemble appliance, set the internal and / or remote clock if fitted, and check appliance operation. When appliance is on check test points for gas tightness.



		NG	LPG
BURNER PRESSURE SETTINGS	HIGH	9.2mbar	10.6mbar
	LOW	1.8mbar	2.0mbar
INJECTOR SIZE		1.13	0.85

# FITTING TOP SPACER + WALL CLIP

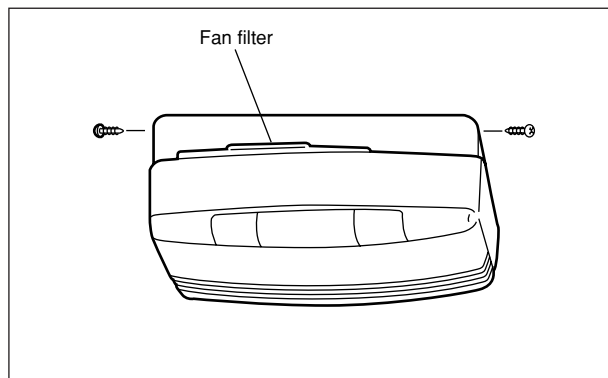
## ■ SECURE HEATER TO WALL



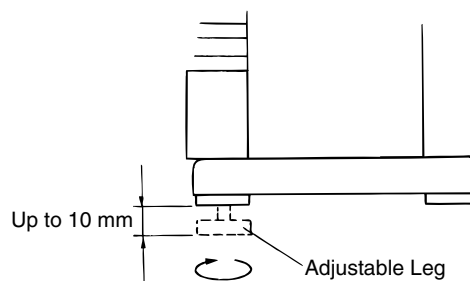
Fix angle bracket to back spacer with screws provided.

Fix wall bracket to wall, so that the tongue of the angle bracket will fit into it, when the back spacer is fitted to the top of the heater.

Tighten all screws, fit fan filter.



Levelling screws(Adjustable legs)



If necessary, the unit can be levelled using the adjustable legs under the front right and left hand side legs.

## ■ INSTRUCT CUSTOMER ON USE OF HEATER

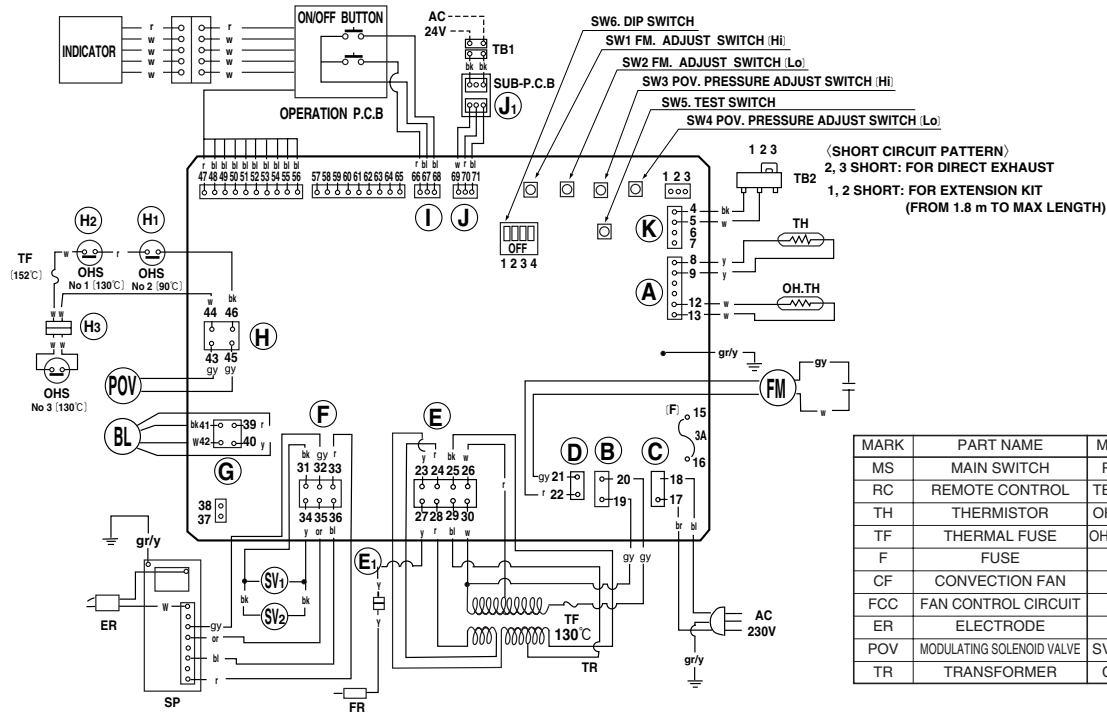
When you are satisfied that the appliance is operating correctly, explain operation of heater to the customer.

## FAULT-FAILURE PROCEDURE

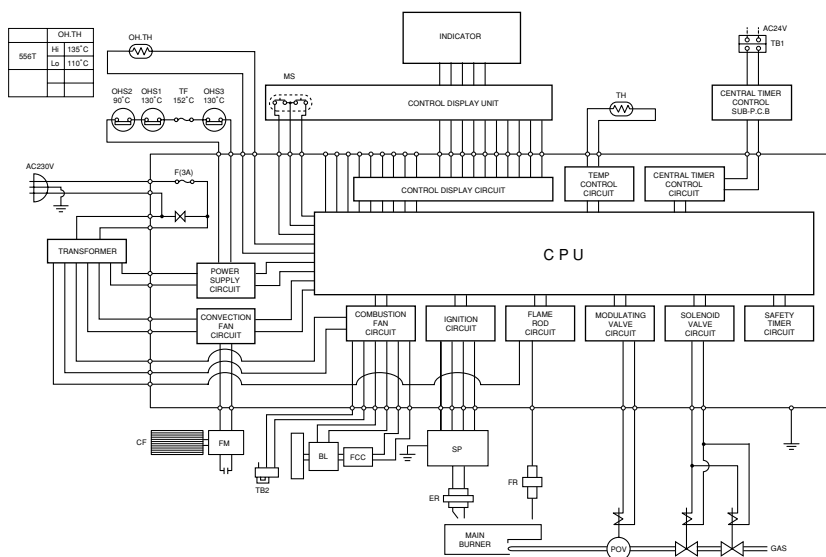
If unable to get the heater to operate correctly contact **Rinnai**.

# BLOCK AND WIRING DIAGRAM

## WIRING DIAGRAM



## BLOCK DIAGRAM



# FORCED FLUE HEATER EXTENSION KITS

## EXTENSION KIT PARTS AND INSTALLATION GUIDE

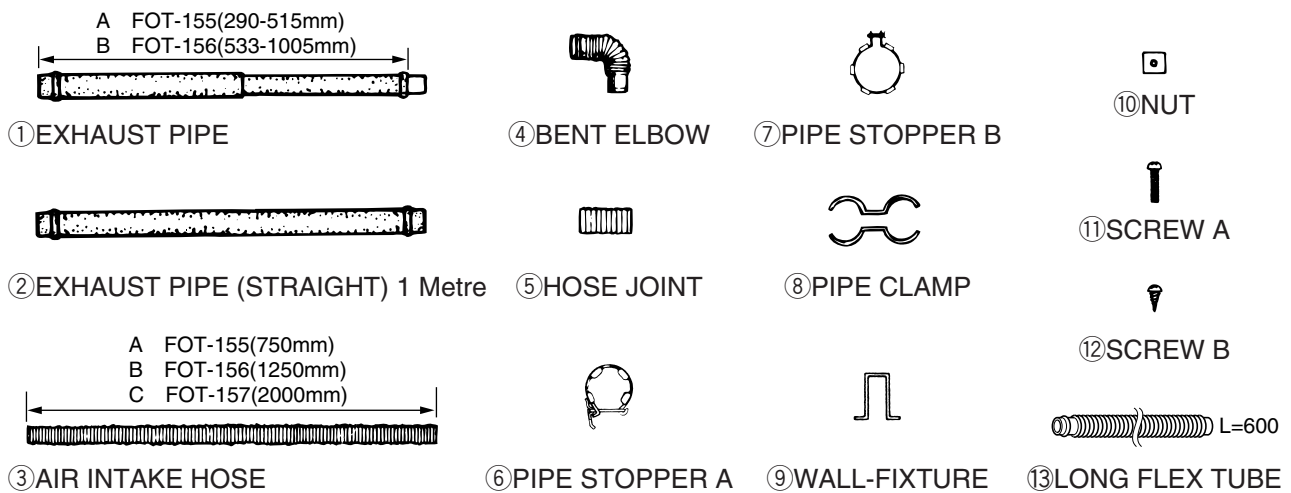
FOT - 155	0.5m EXTENSION KIT
FOT - 156	1.0m EXTENSION KIT
FOT - 157	2.0m EXTENSION KIT
FOT - 158	BENT ELBOW KIT
FOT - 160	LONG FLEX TUBE 600 KIT

**Rinnai**

- This extension set is to be used for installations requiring extra distance.

MAXIMUM FLUE LENGTH 7 METRES. Reduce length 1 metre for each bend used. (e.g. 4 metres, 3 bends).

## ■ NAMES AND NUMBERS OF PARTS

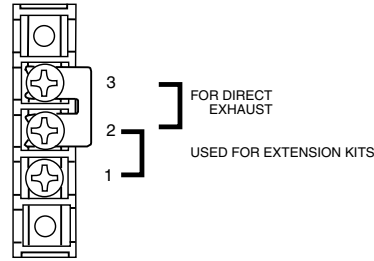


		PARTS No.	FOT-155	FOT-156	FOT-157	FOT-158	FOT-160
①	A	EXHAUST PIPE	FOT 081-2	1			
	B	EXHAUST PIPE	FOT 082-2		1	1	
②		EXHAUST PIPE (STRAIGHT)	FOT 157-3			1	
③	A	AIR INTAKE HOSE	RHF 300-51-6	1			
	B	AIR INTAKE HOSE	RHF 300-51-7		1		
	C	AIR INTAKE HOSE	RHF 300-51-3			1	
④		BENT ELBOW	FOT 087-002			1	
⑤		HOSE JOINT	FOT 062-12	1	1	1	
⑥		PIPE STOPPER A	305F-0017	1	1	2	1
⑦		PIPE STOPPER B	FOT 081-4	1	1	1	
⑧		PIPE CLAMP	FOT 062-8	2 SET	3 SET	4 SET	
⑨		WALL FIXTURE	FOT 062-9	2	3	4	
⑩		NUT	FOT 062-10	2	3	4	
⑪		SCREW A	ZAA0422SC	2	3	4	
⑫		SCREW B	ZEAA0412SZ	4	6	8	
⑬		CONG FLEX TUBE	FOT160-2				1

### IMPORTANT NOTE:

When the appliance is installed using a flue extension that exceeds 1.8 metres you must change the link on the flue extension terminal block as shown.

Terminal is located at the rear of unit next to gas inlet.



## ■ TYPES COMPATIBLE WITH EXTENSION KIT

RHFE - 556FTR / 556T

### INSTALLING AN EXTENSION KIT

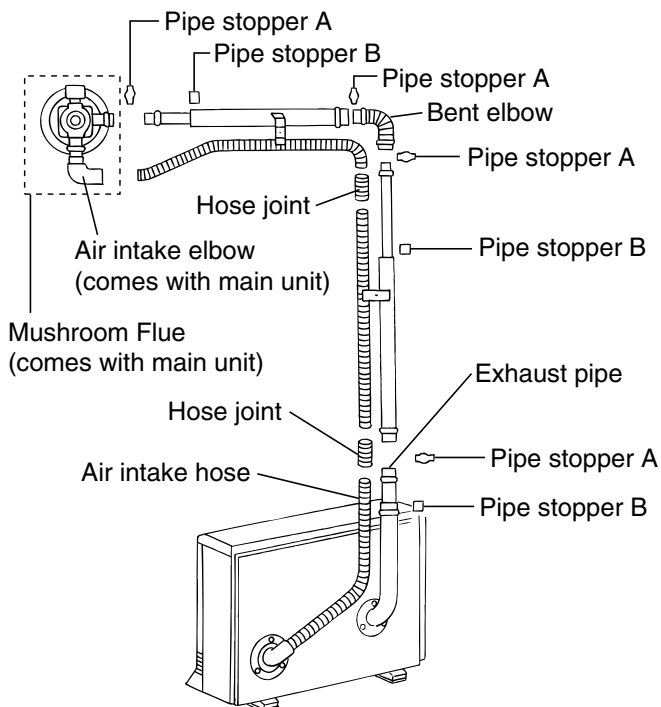
Installing an extension kit requires construction of an air line and the exhaust line. The air line is connected between the Air Supply Elbow at the rear of the heater and the air inlet port on the Flue pipe. Similarly, the exhaust line is connected between the joint pipe at the rear of the heater, and the exhaust port on the Flue pipe.

Caution: Check to see there is no debris in pipe or hose.

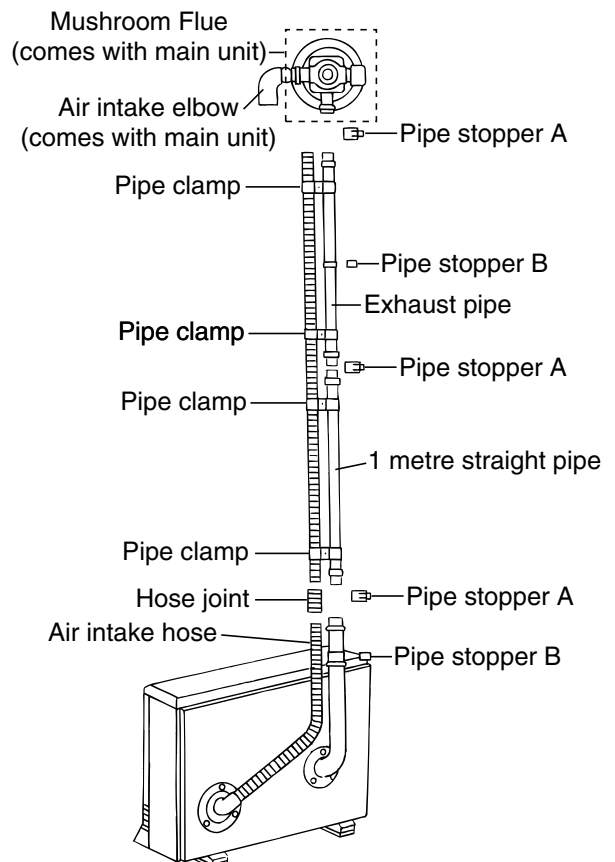
## ■ HOW TO INSTALL

MODEL: RHFE - 556FTR / 556T

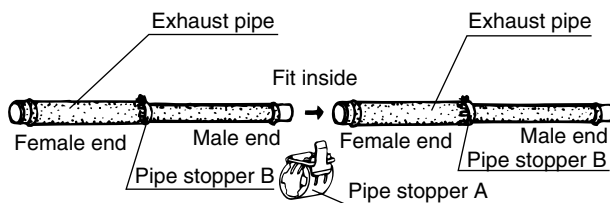
Example: Using 2 sets of extension kit and 1 bend kit.



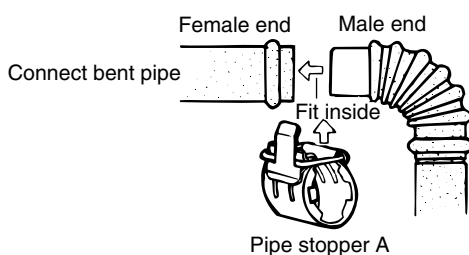
Example: Using 2 Metre side pipe kit.



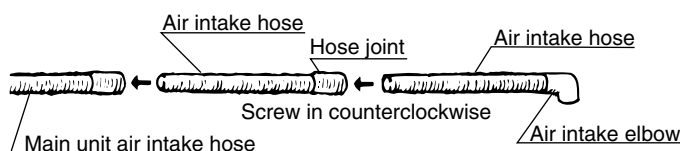
## 1. How to connect exhaust pipes



To connect the exhaust pipes, fit the male end into the female end and clamp with pipe stopper A to prevent slipping. The exhaust pipe can be telescoped to the required length; do not cut it.



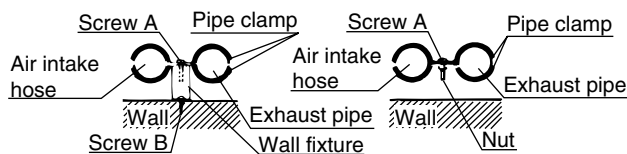
## 2. How to connect air intake hose



Screw hose joint half of its length onto the air intake hose, then screw another air intake hose into the joint. The hose can be cut to the required length.

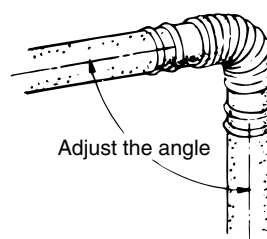
**IMPORTANT:** The PVC air line is longer than the exhaust line and may need to be cut to size. Be sure, however, to thoroughly deburr all rough edges.

## 3. Affixing the air intake hose and exhaust pipe



- Set the air intake hose and exhaust pipe into the pipe clamps, screw the clamp onto the wall fixture, and affix to the wall with screw B.
- The air intake hose and exhaust pipe can also be screwed onto the wall using the pipe clamp and the nut.

## 4. How to use the bent pipe



With the exhaust pipes inserted into the ends, bend the bent pipe to the angle required for installation.

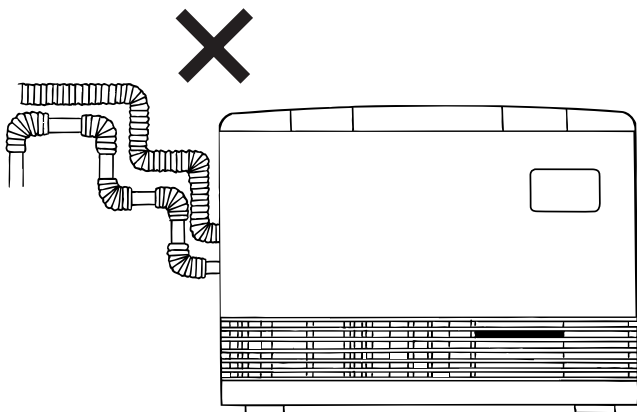
This part is mainly used for curves and for connection to vent terminal.



## ■ CAUTIONS

### 1. Maximum extendable length

FOR BEST ROOM AIR HUMIDITY, KEEP WATER IN THE HUMIDIFIER TRAY.



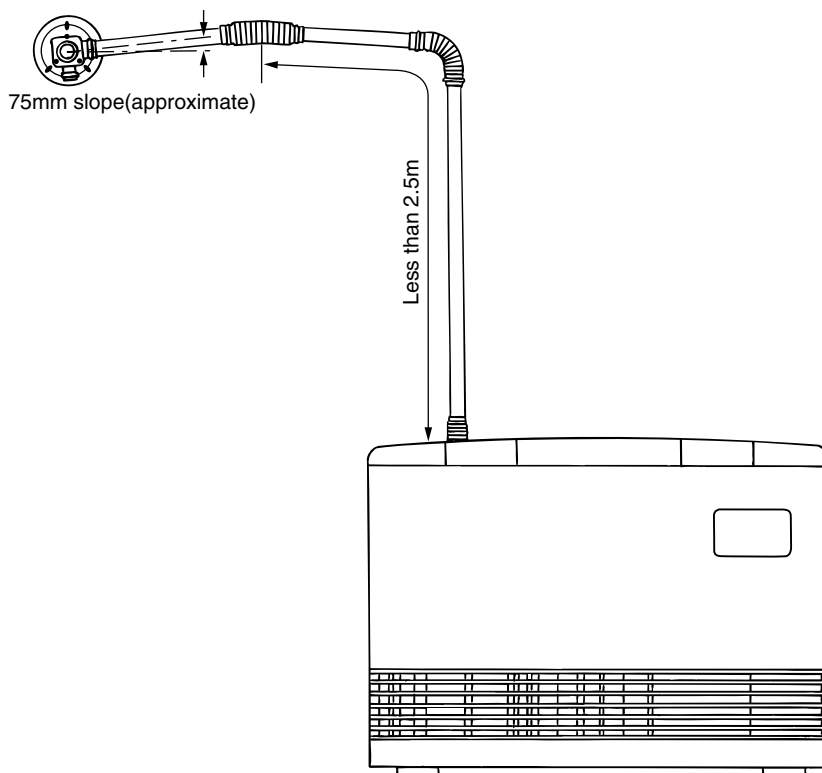
MAXIMUM FLUE LENGTH 7 METRES.

Reduce length 1 metre for each bend used.

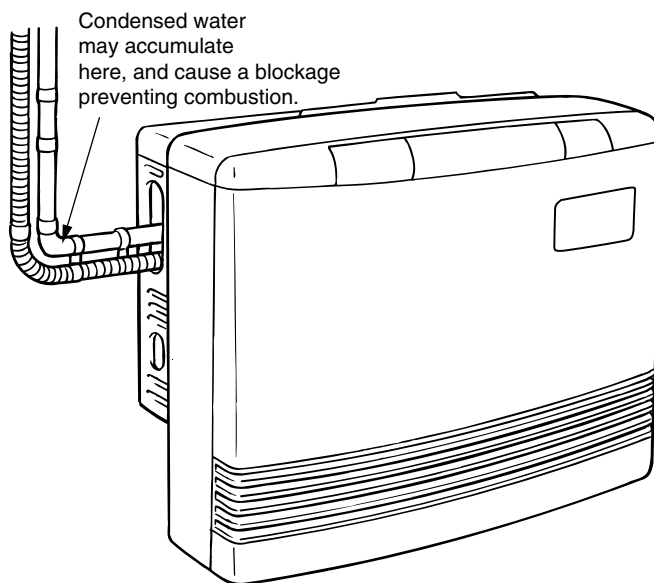
(e.g. 4 metres, 3 bends).

- The bend where the hose and pipes leave the body is not counted.
- The air intake hose should run along the exhaust pipe.

3. Condensed water formed by combustion, will run back to the unit, and may overflow from the condensation pan if pipes are longer than 2.5m. Therefore, pipes exceeding these lengths should be made to drain to the outside by giving their horizontal portions 75mm or more downward and outward slope.



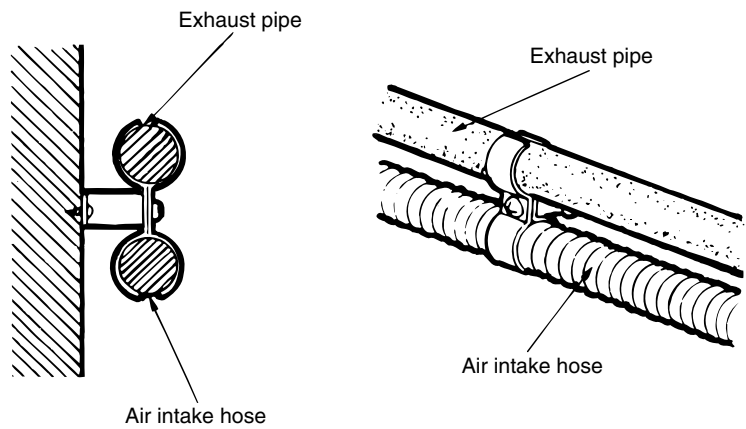
### 2. To prevent water condensation



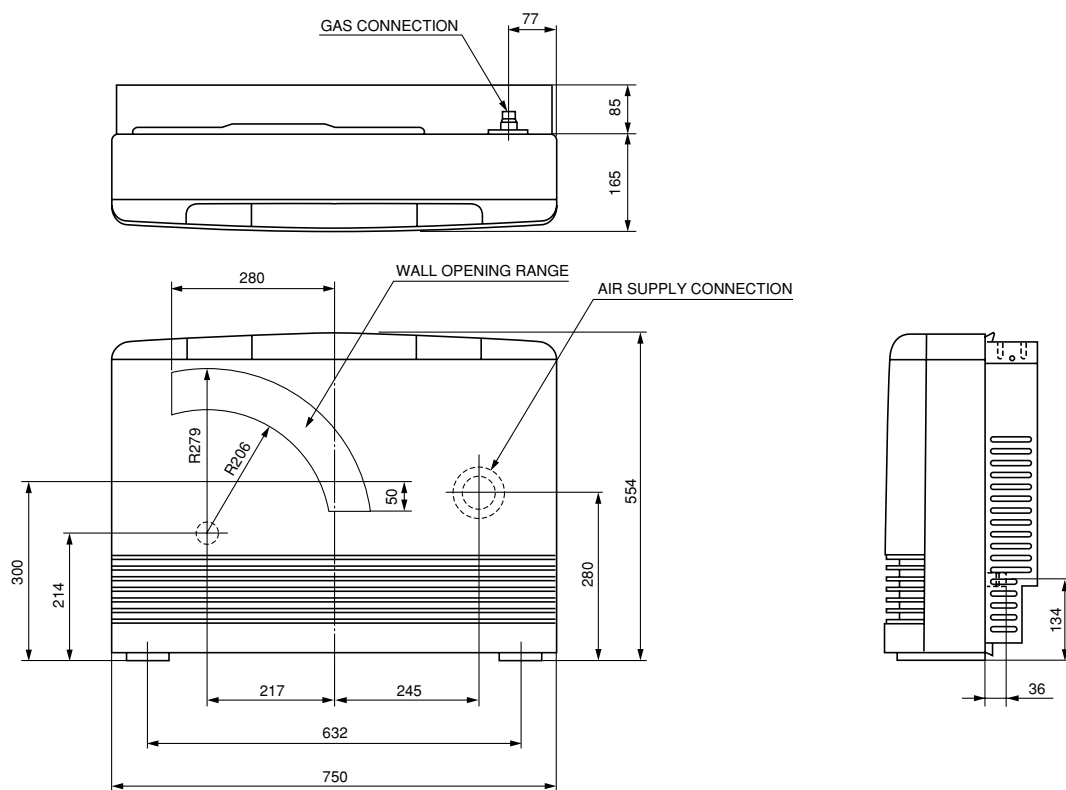
### CAUTION

Never allow the exhaust pipe to sag, as condensed water may accumulate and cause incomplete combustion.

4. Wherever the air intake hose and exhaust pipe run sideways, try to have the exhaust pipe on top (to prevent the air intake hose from sagging onto the exhaust pipe).



# DIMENSIONS



# SERVICE CONTACT POINT

**Contact:** **Rinnai UK Ltd.**  
9 Christleton Court  
Manor Park  
Runcorn  
WA7 1ST  
Tel: 01928 531870  
Fax: 01928 531880  
[www.rinnaiuk.com](http://www.rinnaiuk.com)

